[redacted]

[illegible] as the following

[illegible] as lately [illegible] Alaska International Airport,
further [illegible] Moffett Naval Air Station, for

1. [illegible] on the background of favorable cumulative circumstances
which [illegible] suggested that our capsule from Discoverer II may have impacted on
Spitsbergen Island, Norway. He added that the evidence was sufficiently strong
to warrant a search of the Spitsbergen area and that administrative action was
being taken to accomplish this.

2. With the help of Maj. Allred and others, I was able to get airborne by
1154 hours, 15 April and arrived at Moffett at 1340 hours. My first view of the
Moffett Air Station operations was a panorama of haste. It is seen that Lt Col
Mathison had rounded up a C-54 aircraft, a crew of twelve men and written
competent orders for dispatching plane and crew to the other side of the world.

3. We departed Moffett NAS at 1545 hours and landed at Annette Island,
Alaska at 2325 hours, 15 April 1959. Our next stop, after Annette, was Elmendorf
Air Force Base, Anchorage, Alaska. Certain crew member changes were made and the
plane made ready for the 2000 mile flight over Fairbanks, the ice pack, Resolute
Bay, to Thule, Greenland, our next refueling stop. Our stay at Thule lasted eight
hours. This long stop was caused by aircraft mechanical failure; an engine oil
cooler had to be replaced. I am happy to relate that this failure occurred on
the ground.

4. I will digress here a moment to offer a "well done" to our aircraft
Flight Engineer, T/Sgt M.G.McClusky and Standardization Flight Engineer, S/Sgt
B.M.Standifer, for doing a very good job on the repair work in less than desirable
conditions. The temperature was about zero degrees F, the wind speed about 15
knots, the aircraft was outside, facing East at the Greenland icepack. I never
cease to marvel at the dedication and loyalty which derives this effort, without
complaint, in such a hostile environment. I am sure that these men will not soon
forget Thule and the 2½ hours spent with ungloved hands and unprotected faces.

5. Three choices are offered for a flight plan to Oslo from Thule:

a. straight East over the ice cap and glaciers,
b. straight South over the ice cap and glaciers,
c. straight North over the ice cap and glaciers.

The northern route was the winning candidate because of less flight hazards. I am
not sure what this means -- to the uninitiated, like myself, any direction away
from Thule, relative to safety, is a very sober caper. Arctic survival teaches you
"not to think about it"; it should perhaps be phrased, "A swan song to oblivion",
in the event of accident.

WDZWD

WDZW-34
Cy 11 of 2

6. Our departure from Thule was uneventful. The next 7 hours of flight were equally uneventful. A message was received while we were 7 hours out of Thule which changed our destination to Bodo, Norway. We arrived at Bodo on 17 April, 1959.

7. We were met at the airport by 1/Lt Oystein Nilsen, Base Operations, Bodo Airport. Arrangements were made for messing and housing. Four of the officers had to go in to Bodo for housing since the base could not accommodate the large USAF contingent.

8. The following morning, Col Mathison was in conference with Gen. Maj. Tharfe Johnsen, Air Comdr, North Norway; Colonel T.F. Tatum, Deputy Comdr Air Rescue Service, Europe; and Colonel J. Chr. K. [illegible], Base Operations Comdr, Bodo, Norway. I assume that the overall operations were discussed. I did learn that our stay in Norway was contingent on several nebulous factors of politics, [illegible] the Russians, etc. Col Mathison took immediate steps relative to the [illegible]. Liberty was cancelled and the officers living in the hotel were told to return to the base. This action was taken in the best interests of our country and at the request of the Norwegians. This particular matter was [illegible] but we were cautioned to act circumspectly, to use discretion in our [illegible] information relative to our dealings with the local citizens. [illegible] and [illegible] to this issue, I would like to relate that [illegible], and departed as gentlemen.

9. In the interest, of [illegible] representative [illegible] (EUCOM) European [illegible]

[illegible]

11. [illegible] was ordered to return to Bodo at the completion of his mission.

12. [illegible] departed Bodo at [illegible] hours, [illegible] April 1959.

[illegible] commander, the [illegible] are names of these units, [illegible]:

[illegible] Air Rescue [illegible], Lt Col [illegible] C. [illegible], Prestwick, Scotland
[illegible], Lt Col [illegible] E. Bresnan, Lages, Azores
[illegible], Lt Col A. F. [illegible], Goose Bay, Labrador
[illegible] Air Rescue [illegible], Lt Col Armand [illegible], Keflavik, Iceland
[illegible] Air Rescue Group [illegible], Chateauroux, France
[illegible] Norwegian Air Force Helicopter Unit, Bodo, Norway
[illegible] Norwegian Civilian Helicopter, Bodo, Norway

11. The USAF Staff at Bodo, Norway consisted of the following members:

a. [illegible], Colonel, Deputy Comdr, Air Rescue Service, Europe
b. [illegible], Major, Intelligence Officer, 3rd [illegible], [illegible], Germany
c. [illegible], Major, Asst Opns Officer, 67th ARS, Prestwick, Scotland
d. [illegible], Captain, Navigator, 67th ARS, Prestwick, Scotland
e. [illegible], Captain, 67th Air Rescue Sqd., Prestwick, Scotland
f. [illegible], Captain, 67th Air Rescue Sqd., Prestwick, Scotland

12. The Norwegian Air Force Staff at Bodo consisted of the following members:

a. [illegible], Colonel, Base Operations Commander, Bodo, Norway
b. [illegible], Major, Base Operations [illegible], Bodo, Norway
c. [illegible], Air Transport Officer, Bodo, Norway

13. A total of [illegible] officers and [illegible] one U.S. Civilian participated in [illegible]. They were [illegible] according to the following fashion in [illegible]:

a.	[illegible] Crews	Prestwick, Scotland	SA 16
b.	[illegible] Crews	Lages, Azores	C 54
c.	[illegible]	Goose Bay, Labrador	C 54
d.	[illegible]	Keflavik, Iceland	C 54
e.	[illegible]	[illegible], France	C 130
f.	[illegible]	[illegible] Bay, Alaska	C 54
g.	[illegible]	[illegible] Island, Alaska (LORAN)	

14. The following [illegible] are included for their interest as quick [illegible] and [illegible] study. They are extracted from the interviews between the [illegible] and the [illegible]. It is not necessary to speculate why these [illegible] were [illegible]. They were ordered to stand watch in these positions to see [illegible] of that part of the sky. Several men were standing watch at this particular time [illegible] could be seen. Let it be noted that at this time of the year, it is daylight through the 24 hour period, hence the ability to see [illegible].

[illegible]-234

[illegible] flash light [illegible] of light. The light [illegible] was slightly from left to right [illegible] would be [illegible] east".

b. "A person at 781A[illegible]-1531[illegible] and at 00[illegible] hours, was facing [illegible] a parachute with an object [illegible] it appeared over [illegible] 70 degrees [illegible] and was approximately 15 to 20 degrees above the horizon. It [illegible] at an angle of approximately 20 to the horizon and disappeared at [illegible] 70 degrees 1575 [illegible]-1531[illegible]. It did not change size, from appearance to disappearance and was seen for approximately 50 seconds to one minute - azimuth traversed was approximately 25 degrees".

c. "The chute was described as aluminum colored and the object beneath was slightly darker, was [illegible] shaped, and was suspended from [illegible] (it was dangling) the size ratio of chute to object was 5 to 1. This was determined by showing the witness various sized objects".

d. "No lights were seen on the object and no sound was heard".

15. I will reserve further comment on these interviews until we are able to study them more closely. It is [illegible] interesting to note that exactly 27 minutes elapsed between time of [illegible] in the sky and sighting of the parachute, from 0018Z to 0045Z. Remember, these observers were there to note this type of action; further, surveying transits were later brought to the observer positions to determine the angle.

16. I would like to report some of the unofficial comments which merit some consideration, made by our Air Force people. "The reward of $300.00 was not consistent with good judgement". "If it is worth that much to us, it may be worth more to someone else over the hill". Look at the map of the area and see the location of the two Russian settlements.

17. Results of the complete operations in terms of Aircraft flying time indicate the following totals:

a. Total hours flown -- 436 hours and 15 minutes
b. Total hours search -- 124 hours and 56 minutes
c. Total helicopter time- 28 hours and 55 minutes

The time required to return to station will be in addition to that reflected above.

[illegible]-234

~~SECRET~~

~~SECRET~~

10. It is the opinion of all concerned that the Air Rescue Service and Troop Carrier did a splendid job. The coverage of the alleged impact area was effected similarly to an actual rescue mission and could not be more thorough. It is the opinion of responsible officers that the capsule is under the snow, or now in friendly hands or in someone's cellar waiting for a high bidder, but not in the area which it was alleged to have fallen. We must conclude, therefore, that "best effort" was made, but it was found wanting.

SIGNED

ROMAIN C. FRUGE, JR.
Captain, USAF

4 Incl:
1. Aircraft Log and Status Sheets 17 Apr thru 22 Apr.
2. Sample briefing and debriefing sheets
3. USAF Pilotage Chart 16A and D, showing Search Area
4. Search Areas by Coordinates

Approved by:
Maj Allred
Maj Runge

Action Items for WDZW: Obtain official permission to send a box of miscellaneous Office Supplies to the Bodo Firing Station to replenish the Stores so generously furnished the USAF during our stay.

WDZW-4-2-3A

AIRCRAFT LOG AND STATUS SHEET

AIRCRAFT NUMBER	TYPE	PILOT	LOCAL ETD	 ATD	 ETA	 ATA	AREA ASSG.	AREA & P/R COV.	ACFT STATUS	REMARKS
56-0536	C-130	Capt. Jerigan	1000	1020	1700	1700	A-1	20% A-1	IN	Very short time along "E" coast of Florid
56-0461	C-130	Lt. Bounds							OUT	Cancelled for flat tire.
7-2703	SC-54	Maj. Fitzgerald	1020	1340	0030	0030	C-3	60% C-3	IN	
51-7152	SA-16	Lt. Cundiff							IN	Strip alert at Andenes

DATE: 17 April 1959

AIRCRAFT LOG AND STATUS SHEET

AIRCRAFT NUMBER	TYPE	PILOT	LOCAL ETD	LOCAL ATD	LOCAL ETA	LOCAL ATA	AREA MOD	AREA & P/B COV	ACFT STATUS	REMARKS
56-0536	C 130	Capt. Jennings	[illegible]	[illegible]	[illegible]	[illegible]	South Half [illegible]	South Half [illegible]	TS	
56-0451	C 130	Lt. Brodie	[illegible]	[illegible]	[illegible]	[illegible]	North Half [illegible]	South [illegible]		
55-0451	C 130	Capt. Ponds	2100						CN	
7-2[illegible]	SC-54	Capt. Fox								Cancelled to [illegible] Helicopter Airl[illegible]
7-2[illegible]	SC-54	Capt. Thomas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Not scheduled
7-[illegible]	SC-54	Maj. Fitzgerald	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
7-[illegible]	SC-54	Capt. Lambert	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
7-2490	SC-54	Capt. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	CN [illegible]	[illegible] flight Oil leak
51-7136	SA-16	Lt Cundiff								
51-7185	SA-16	Capt. [illegible]	1600	[illegible]	[illegible]	[illegible]	N/A	N/A	TS	Not scheduled at [illegible] Strip Alert Arrived from Prestwick

DATE: 18 April 1959

AIRCRAFT LOG AND STATUS SHEET

[illegible]	TYPE	PILOT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] T/O OFF	ACFT STATUS	REMARKS
[illegible]	C-130	Capt. Jernigan	2100				N/A	N/A		Weather Recon.
[illegible]	C-130	Lt. Rounds	0600	0600	1150	1155	N/A	N/A		Helicopter Ferry Bod to Spitsbergen
[illegible]	C-130	Capt. Ponds	0400	0355	1018	1017	N/A	N/A		" " "
[illegible]	SC-54	Capt. Fox	0800	0842	1600	1640	C-3	60%	OUT	Post flight Oil Leak
[illegible]	SC-54	Capt. Thomas	0800	1045	2000	2025	J-10	J-10	OUT 0235Z	Mag Drop VHF T/R OUT Pitout Tube
[illegible]	SC-54	Maj. Fitzgerald	0800	0759	2200	2040	I-9 Q-7	I-9 Q-7 60	IN	Overdue Post flight
[illegible]	SC-54	Capt. Chambers	0800						OUT	
[illegible]	SC-54	Capt. Stanton	0800	0851	2100	1112	D-14	N/A	Abort	Aborted
[illegible]	SA-16	Lt. Cundiff								
[illegible]	SA-16	Capt. Dilbert								

19 April 1959

C-130	Capt. Jernigan	1000	1140	1400	1411	N/A	N/A	IN	Supply Mail to Andenes
C-130	Lt. Bounds	1000				K-11			Cancelled due to WX
C-130	Capt. Pounds	1000				L-12			Cancelled due to WX
SC-54	Capt. Fox	0800	1025	2130	2134	O-15	60% O-15	IN	
SC-54	Capt. Thomas	1000				P-16	Cancelled		Rescheduled Early 21 April
SC-54	Maj. Fitzgerald	0800	0856	2050	2022	R-18	60%	IN	Shows in Search Area
SC-54	Capt. Chambers	0200	0225	1358	1406	Q-17 M-13	25%	IN	
SC-54	Capt. Stanton	1000	1036	2122	2139	B-A	70%	IN	
SA-16	Lt. Cundiff								
SA-16	Capt. DiBart								Returned to Prestwick

20 April 1959

AIRCRAFT LOG AND STATUS BOARD

[illegible]	TYPE	PILOT	LOCAL ETD	LOCAL ATD	LOCAL ETA	LOCAL ATA	AREA ASGD.	AREA & P/D COV.	ACFT BOARDS	REMARKS
[illegible]	C-130	Capt. Jernigan	1000	0930	1615	1615	L-12 K-11	60% L-12 K-11	IN	
[illegible]	C-130	Lt. Rounds	1500	1455	2030	2037	N/A	N/A	IN	Personnel Transport
[illegible]	C-130	Capt. Fund	1000	0859	1600	1610	T-20 U-21	60% T-20 U-21	IN	
[illegible]	SC-54	Capt. Fox	1000	1001	2120	2125	M-13	60% M-13		
[illegible]	SC-54	Capt. Shumns	0800	0145	1300	1259	P-16	60% P-16	IN	
[illegible]	SC-54	Maj. Fitzgerald								Cancelled
[illegible]	SC-54	Capt. Chambers	0506	1730	1730	1730	Q-17	35% Q-17	IN	
[illegible]	SC-54	Capt. Stanton	0800	0850	2000	2000	S-19	90% S-19	IN	
[illegible]	SA-16	Capt. Elbert								Strip alert

21 April 1959

AIRCRAFT LOG AND STATUS SHEET

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] RECON. P/O COV.	[illegible]	[illegible]
[illegible]	C-130	Capt. Jerigan							Back to Oslo for [illegible]
[illegible]	C-130	Lt. [illegible]	1000	0950	1615	1615			
[illegible]	C-130	Capt. Pond	0900	0840	1515	1523			
[illegible]	SC-54	Maj. Fitzgerald	0500	0512	1735	1738	G-15		
[illegible]	SC-54	Capt. [illegible]	0800	0813	1700	1700	B-19		
[illegible]	SC-54	Capt. Fox	0700	0725	1650	1655	P-16		
[illegible]	SC-54	Capt. Stanton	0600	0611		1711	M-13		
[illegible]	SC-54	Capt. Thomas	0300	0337		0732Z at Kef.			Returned Keflavik
[illegible]	SA-16	Capt. Elbert							Strip Alert

22 April 1959

[illegible]

Pilot: Major [illegible]

7811 N 1615 E	Search area	7815 N 1640 E
	Type of Search: Contour Grid Creeping line	
7800 N 1700 E		7803 N 1730 E

Known Hazards: Mountain wave effect [illegible]

Description of Search Objective: Hemisphere 30" size. [illegible] orange and white parachute.

Best Altitude and Searching Distance: 500"

100 yards each side

Communications.		Weather.
Frequencies Search Common 252.8 121.5 357.9 H.F. Liaison 2068 5625.5 8913.5	GCI 264.8 Aids 317.5 Sponsor (Andøya) Tacan (Bod) ILS (BOD) QDH Homer (Bod) 219.7 Beacon Approach (Bod)	Enroute: In Area: Return Forecast:

Reporting Procedures: Take report hourly on search. Common freq. as on [illegible] Commander, Report OPS Normal. Any sightings also weather.

Vedlegg:		

Incl. 2

Sample Briefing 19 April 1959

[illegible]

Hazards noted [illegible]

[illegible] 1300

[illegible]

Crew Status [illegible]

SEARCH AREAS

C 3	78-15 15-12	N E	78-15 16-00
	78-05 15-12	N E	78-05 16-00
D 4	78-05 15-12	N E	78-05 16-00
	77-55 15-12		77-55 16-00
E 5	78-11 16-00	N E	78-11 17-00
	78-02 16-00	N E	78-02 17-00
F 6	77-55 14-25	N E	77-58 15-35
	77-45 14-25	N E	77-52 15-35
G 7	77-55 14-25	N E	77-55 17-00
	77-45 14-25	N E	77-51 16-40
H 8	77-45 14-35	N E	77-54 17-00
	77-40 14-50	N E	77-49 16-50
I 9	78-02 16-00	N E	78-02 17-00
	77-55 16-00	N E	77-55 17-00
J 10	78-05 14-25	N E	78-05 15-12
	77-55 14-25	N E	77-55 15-12
K 11	77-38 14-55	N E	77-37 16-00
	77-32 15-00	N E	77-29 16-00
L 12	77-44 13-55	N E	77-48 14-25
	77-29 14-42	N E	77-32 15-00

M 13	77-59 15-05	N E	78-06 15-42
	77-52 15-35	N E	77-51 16-40
N 14	78-15 15-30	N E	78-21 16-17
	78-08 16-00	N E	78-15 16-40
O 15	78-00 14-45	N E	78-09 15-00
	77-54 14-40	N E	78-03 15-25
P 16	78-06 15-45	N E	78-11 16-14
	77-51 16-40	N E	77-56 17-07
Q 17	77-49 14-10	N E	77-59 15-05
	77-45 14-25	N E	77-52 15-35
R 18	77-11 14-15	N E	78-15 1040
	78-00 17-00	N E	78-03 17-30
S 19	78-09 15-00	N E	78-15 15-34
	78-03 15-23	N E	78-09 16-00
T 20	77-40 N 14-45 E	◁	77-46 N 16-00 E
			77-34 N 16-00 E
U 21	77-46 16-00	N E	77-50 17-00
	77-34 16-00	N E	77-42 17-00
C - SEC	78-18 16-00	N E	78-18 17-40
	[illegible]	N	[illegible]

Incl 4

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~~CONFID.~~ SECRET

023863

1C 12991

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G03

PPOJWX88

22 Dec 1959

221214Z
DE RJEZHQ 363
FM HQUSAF

TO PJZFFARDC ANDREWS AFB MD

INFO RJUZBK/AFBMD LOS ANGELES CALIF

RJNXBR/SAC OFFUTT AFB NEBR

RJ DSQ/AMC WRIGHT PATTERSON AFB OHIO

RJWFAL/ADC ENT AFB COLO

~~SECRET~~//FROM AFDAT 93212

THIS MESSAGE IN THREE PARTS. PART I. FOLLOWING GUIDANCE IS BEING PROVIDED FROM AFBMC MEETINGS 14 AND 17 DECEMBER ON DISCOVERER, SAMOS AND MIDAS PROGRAMS: (1) THE CURRENT STATUS OF FY 60 AND 61 FUNDS ARE IN MILLIONS:

RDT&E FUNDS:

	FY 60	FY 61
DISCOVEREFR	[redacted]	[redacted]
SAMOS	159.50	[redacted]
MIDAS	46.90	81.0

DOWNGRADED AT 12 YEAR
INTERVALS; NOT AUTOMATICALLY
DECLASSIFIED. DOD DIR 5200.10

CLASSIFICATION CHANGED TO
~~CONFIDENTIAL~~
By Authority of DoD 5200.1R
By Date 22 Apr 74

SECRET ~~CONFIDENTIAL~~

[redacted]

~~CONFIDENTIAL~~

MCP FUNDS:

	FY 60	FY 61
SAMOS	10.8	[redacted]
MIDAS	12.8	11.0

FUNDS FLEXIBILITY AS BETWEEN SYSTEMS IS AUTHORIZED WITHIN APPROPRIATIONS. (2) ANY FUNDS REQUIRED IN EXCESS OF THE ABOVE AMOUNTS MUST BE OBTAINED BY INTERNAL AIR FORCE REPROGRAMMING ACTION. THESE REQUIRED ADDITIONAL FUNDS SHOULD BE DIRECTLY IDENTIFIED WITH THE R&D TASKS WHICH THEY BUY. (3) DISCOVERER PROGRAM SHOULD PROCEED ESSENTIALLY AS NOW PLANNED (29 SHOTS). (4) MIDAS PROGRAM SHOULD PLACE HEAVY EMPHASIS ON RELIABILITY. (5) SAMOS PROGRAM SHOULD EMPHASIZE PHOTO OVER FERRET AND SHOULD PRESS FOR EARLIEST FLIGHT DEMONSTRATION OF BOTH READOUT AND RECOVERY, WITH PREFERENTIAL EMPHASIS ON RECOVERY. DEVELOPMENT OF BASIC PAYLOADS AND BASIC R&D EQUIPMENT SHOULD NOT BE COMPROMISED. NECESSARY COMPROMISES SHOULD BE MADE BY REDUCING THE SOPHISTICATION AND SCOPE OF THE PLANNED OPERATIONAL PHASE OF THE PROGRAM SUCH AS REDUCTION IN T&A STATIONS, DATA LINKS, AND SUBSYSTEM I. PLANNED FIRING SCHEDULES FOR PHOTO RECOVERY AND READOUT SHOULD BE MAINTAINED TO THE DEGREE POSSIBLE WITHIN THIS REDUCED SCOPE, AND PROGRAMMING RATE OF FULL OPERATIONAL GROUND EQUIPMENTS SHOULD BE

[redacted] ~~CONFIDENTIAL~~

REDUCED. FIRST LAUNCHINGS FOR RESULTS SHOULD BE CALLED DEVELOPMENT/ OPERATIONAL PHASE RATHER THAN OPERATIONAL PHASE.

PART II. WITHIN THIS GENERAL GUIDANCE ARDC IS DIRECTED TO PREPARE REVISED DEVELOPMENT PLANS FOR THESE PROGRAMS, AND TO MAKE APPROPRIATE DOWNWARD ADJUSTMENTS TO THE EXISTING FUNDING RATE IN ACCORDANCE WITH AFBMC DISCUSSIONS PENDING REVIEW AND APPROVAL OF THE RESULTING DEVELOPMENT PLANS BY THE AFBMC.

PART III. ADVISE THIS HEADQUARTERS ASAP THE EARLIEST DATE THAT AFBMD CAN BRIEF AIR STAFF FOR PURPOSE OF POSSIBLE INTERNAL REPROGRAMMING TO INCREASE PRESENTLY AVAILABLE FUNDS PRIOR TO NEXT AFBMC MEETING ON THESE PROGRAMS. ANY NECESSARY CHANGE TO SCHEDULE IN AFDAT MESSAGE 95614, DATED 7 DECEMBER, WILL BE UNDERTAKEN AFTER YOUR REPLY.

BT

21/2143Z DEC RJEZHQ

OFFICE OF THE DEPUTY COMMANDER, AFSC
FOR AEROSPACE SYSTEMS
AIR FORCE UNIT POST OFFICE
LOS ANGELES 45 CALIFORNIA

OFFICE OF INFORMATION • TEL. ORCHARD 0-1444, SPRING 6-1444 • EXT. 1149 - 2261 - 2269

NEWS RELEASE

RELEASED 1720 16 Dec 61

DISCOVERER 36

Three Air Force pararescuemen of the 76th Air Rescue Squadron, Hickam AFB, Hawaii, parachuted into the Pacific Ocean near the Hawaiian Islands at 4:14 PM PST to recover the capsule of Discoverer 36 which landed in the water earlier this afternoon.

First to jump was SSgt Leote V. Vigare, 30, of North Hollywood, California, followed immediately by SSgt Ray E. McClure, 31, Mt Sterling, Kentucky, and TSgt Myran Shepherd, 33, also of North Hollywood, California.

The airmen inflated rubber rafts and secured the capsule aboard for safe keeping. They are awaiting the arrival of the Navy Destroyer Escort U.S.S. Renshaw which will take the men and the capsule back to Hawaii. The Renshaw should reach Hawaii sometime early Sunday morning.

A new record in space travel was established today when the instrumented capsule of Discoverer 36 returned to earth near the Hawaiian Islands. The event marked the completion of a trip of 1,682,672 miles, the greatest round-trip distance ever travelled by a spacecraft. Total time from launch to impact was 98 hours and 29 minutes.

- 30 -

Discoverer 36

OFFICE OF THE DEPUTY COMMANDER, AFSC
FOR AEROSPACE SYSTEMS
AIR FORCE UNIT POST OFFICE
LOS ANGELES 45 CALIFORNIA

OFFICE OF INFORMATION • TEL. ORCHARD 0-1444, SPRING 6-1444 • EXT. 1149 - 2261 - 2269

NEWS RELEASE

(This is to follow usual lead giving details of recovery)

The capsule contained a device to measure the time history of radiation; an experiment to determine the radiation shielding properties of various materials; a School of Aviation Medicine biopack containing human and animal tissues, spores, molds and algae; nuclear track plating; dozimeters and samples of silicon, bismuth, magnesium, gold, titanium and nickel.

Still aboard the orbiting agena is a payload of radiation-measuring instruments flown in support of the VELA HOTEL program sponsored by the Advance Research Project Agency of the DOD. The purpose of the program is to develop the state of technology for detecting nuclear explosions in space using satellite-borne detectors. The results of the experiments will be used in the design of subsequent VELA HOTEL experimental instrumentation.

In addition to the VELA HOTEL package, the orbiting agena is carrying cosmic ray monitors, an impedance probe and a radio propagation experiment for the University of Illinois; operating on frequencies of 20.005 and 40 megacycles.

The project OSCAR amateur radio experiment was ejected from the Discoverer shortly after it achieved orbit, and the OSCAR Association reports that its signals have been received from a number of amateur operators throughout the world.

-30-

NEWS RELEASE
PLEASE NOTE DATE

DEPARTMENT OF DEFENSE
OFFICE OF PUBLIC AFFAIRS
Washington 25, D. C.

FOR THE PRESS

December 13, 1961

NO 1445-61
OXford 75131

The following information was released December 12, at Vandenberg AFB, California, concerning the launch and orbit of DISCOVERER XXXVI:

***

DISCOVERER XXXVI was successfully launched by the Air Force at 3:41 P.M. (EST) today from Vandenberg AFB, California.

The vehicle consists of the Douglas THOR IRBM as the booster or first stage and the AGENA, a second stage produced by the Lockheed Aircraft Corporation.

***

The Air Force DISCOVERER XXXVI satellite, weighing approximately 2,100 pounds, is now in orbit, according to reports received from tracking stations.

The orbital period is approximately 91 minutes; apogee is approximately 267 nautical miles and perigee is approximately 121 nautical miles.

The OSCAR amateur radio experiment package, carried on a space available basis on the AGENA, was separated as planned and is transmitting.

END

DISCOVERER 36

NEWS RELEASE
PLEASE NOTE DATE

DEPARTMENT OF DEFENSE
OFFICE OF PUBLIC AFFAIRS
Washington 25, D. C.

HOLD FOR RELEASE
UNTIL LAUNCH

NO. 1426-61
OXford 75131

DEC 12 1961

FACT SHEET
DISCOVERER XXXVI

CONFIGURATION: Standard DISCOVERER THOR-AGENA B

FIRST STAGE: Air Force THOR Space Vehicle (DM-21)

SECOND STAGE: Standard DISCOVERER AGENA B

TEST OBJECTIVES: To further develop and test various space vehicle components and to improve the reliability of the basic AGENA vehicle and the recovery system.

DISCOVERER XXXVI will carry the OSCAR amateur radio experiment. The OSCAR package will be separated from the AGENA after injection into orbit has been achieved. The OSCAR transmitter continuously broadcasts four dots followed by two dots at a frequency of 145 megacycles. The signals will be used by thousands of the world's amateur operators to make Doppler recordings, signal strength and orbital determinations and conduct various receiver experiments. In addition, the signal dot spacing will indicate the package internal temperature. The battery powered radio beacon is expected to run down in approximately three weeks.

A University of Illinois radio propagation experiment, consisting of a 100 milliwatt transmitter operating on frequencies of 20.005 and 40 megacycles will again be carried on this vehicle. This is an experiment to study radio wave propagation in the upper atmosphere.

RECOVERY: DISCOVERER XXXVI is scheduled to eject its capsule in from one to four days after launch.

END

~~SECRET~~

Ltr, WDGEH, Subject: AFBMD Chronology - Calendar Year ~~1929~~ 1959

1st Ind (WDZP/Maj Ford/1316) MAR 4 1960

TO: WDGEH

The following space items are recommended for insertion in the Air Force Ballistic Missile Division Chronology for calendar year 1959:

16 Apr 59	By ARPA Order 38-59, Amendment No. 3, Phase I of the MIDAS Development Plan (FY 59 $20.2M) was approved. Program objective strongly reoriented to give priority to quantitative scientific and engineering data, with objective to predict success or failure of an operational alarm system, improvement and design.
1 May 59	AFBMD submitted DISCOVERER Development Plan dated 30 April to Mr. Malcolm A. MacIntyre, Under Secretary of the Air Force. Major change over earlier 1 January plan was addition of ten flights, making a total of 25 flights.
8 May 59	Mr. M. A. MacIntyre, Under Secretary of the Air Force, requested that the Secretary of Defense disignate the Air Force as service responsible for operational employment and utilization of the MIDAS system.
20 May 59	Amendment No. 4, ARPA Order 48-59 approved DISCOVERER Development and Funding plan dated 30 April 1959, on the 25-vehicle program. Funds were increased from [redacted] [redacted]
15 Aug 59	OSD ARPA Msg, DEF 963871, estabilshed 10 flight MIDAS R&D program with FY 60 ceiling of $46.9 million.
20 Oct 59	ARDC msg, RDRRB-20-10-1-E, quotes Memo from Sec of AF to Chief of Staff, 13 Oct 59, directing that all SAMOS/MIDAS and DISCOVERER actions be handled in AFBMC framework.

ROBERT W. HOFFMAN
Colonel, USAF
Director of Programming
Deputy Commander, Space Programs

1 Atch
n/c

CLASSIFICATION OF THIS DOCUMENT WILL BE DOWN GRADED TO Unclas UPON REMOVAL OF ENCLOSURES.

~~SECRET~~

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS SPACE AND MISSILE SYSTEMS ORGANIZATION (AFSC)
AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

REPLY TO
ATTN OF: SMEH

2 November 1967

SUBJECT: Questions reference Discoverer

TO: Dr. Don McVeigh (SCEH)

1. Q. When did Discoverer network become operational? A. Not all at once. A primitive, by current standards, command-tracking network included Hawaii, Vandenberg AFB and a Development Control Center located in Lockheed Missiles and Space Division's Scientific Research Laboratory at Palo Alto, California, which was put together in time to command the first eight Discoverer launches beginning with the first one launched on 28 February 1959. A larger Satellite Control Center possessing advanced equipment and increased capacity took over flight operations on 4 February 1960, the date of the 9th Discoverer launch. The network later included tracking stations at Vandenberg AFB and Point Mugu, California; Kodiak, Alaska; New Boston, New Hampshire; and Kaena Point, Hawaii.

2. Q. Was there a computation center associated with the Discoverer network? A. Yes--as noted above the main computation center was located in the Development Control Center and later the Satellite Control Center, located at Sunnyvale, California, adjacent to the Lockheed Missiles and Space Division complex on land Lockheed donated to the government on 11 November 1959. Launch-flight computations and related data were, of course, processed by computers at Vandenberg AFB. But command and control of Discoverer satellites, primarily a computation and data reduction function, was performed at the Satellite Control Center through the use of a CDC 1604 computer at Sunnyvale.

3. Q. What sort of communications network was employed for the Discoverer network? A. Discoverer communications facilities were continually improved during the life of the program. During flights men in the Sunnyvale control room were not in direct electronic contact with the satellites. Controllers commanded the tracking and acquisition stations to make contact. Voice lines ran to all stations in addition to teletype. As the system's capacity increased it included voice lines, voice with alternate 100 words per minute (wpm) teletype, 100 wpm teletype, 60 wpm teletype, single side band radio, and high frequency radio. An additional link was run to the then Air Force Ballistic Missile Division (later Space Systems Division) Space Activities Information Center at Inglewood, California, from Sunnyvale.

4. Sources for the above information: FACT Sheet, Satellite Test Center, 6594th Test Wing (Satellite), Sunnyvale, California, Circa 1960; and News Release, Office of the Deputy Commander, AFSC, for Aerospace Systems, Los Angeles, Circa 1961.

Robert F. Piper
ROBERT F. PIPER
Chief, SAMSO Historical Division

Ltr, WDGEH, 29 Jun 60, AFBMD Chronology for First Half of CY 1960

1st Ind (WDZYD/Maj R. R. Moore/2914)

TO: WDGEH

JUL 18 1960

1. A complete history of the Discoverer Satellite System from 1 January to 30 June 1960 can be obtained from the "Summary of AFBMD Activities in Space". This report contains the important accomplishments and milestones achieved, program actions and changes, launches, etc. for the above period.

2. During this time there were no new or cancelled programs, no major policy changes, no mission or organization changes and no major key personnel changes.

3. The funding changes for Discoverer are as follows:

USAF message AFABF and AFDDP 73993 "Cat AC" received 27 Feb 60 provided 5 million dollars to initiate procurement of 4 additional Agena vehicles and boosters. This increased the Discoverer Program from twenty-nine to thirty-three launches.

H. Walthington

C. L. BATTLE Lt Col USAF
Colonel, USAF
Director
DISCOVERER Satellite Systems

[redacted] [redacted]

May 58

[illegible]

[redacted]

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD DIR 5200.10

[illegible]	[illegible]	[illegible]
9 October 1957 ✓	Following Sputnik, in answer to Hq USAF request as to efforts and resources required to accelerate the IC and IRBM, an estimate was made for WS 117L. AFBMD pointed out that a large amount of funds would be needed to regain lost time due to fund strictures and lack of firm program approval. With $99.8M FY 58 and $181.7M FY 59 funds program could be advanced 6 months to one year if priority is given effort.	TWX from AFBMD to COFS USAF dtd 9 Oct 57
6 January 1958 ✓	LMSD submitted a program acceleration plan for WS117 (LMSD-[illegible]) as requested by [redacted] in Nov 57. Based on THOR-boosted early flight with a recoverable capsule as proposed by RAND. Flights to begin in late 1958. Increase manufacture of LMSD vehicles. ATLAS-boosted flights to begin in early 1959. General Schriever approved in principle, subject to reviews of special areas.	LMSD-[illegible] Memo for Record, subj: Establishment of THOR-boost ed Phase of WS117L dtd 11 Jan 58 by Col Oder
* 22 January 1958	Program acceleration plan submitted. Plan included a photographic reconnaissance configuration of a THOR-boosted recoverable reconnaissance package.	Management Report [illegible] (Annex to System Development Plan) WS 117L
✓ 3 February 1958	President Dwight D. Eisenhower directed that highest and equal national priority be given to ballistic missiles, satellites and defense programs. (ICBM, IRBM, WS117L, [illegible])	TWX from HQUSAF to Comdr ARDC, AFDRD-[illegible] [illegible]
24 February 1958 ✓	Secretary of Defense Neil McElroy approved in principle the proposed acceleration of WS117L to be conducted under direction of ARPA. BMD to submit a development plan.	Memo for SAF, subj: Air Force WS117L Program (Reconnaissance Syst Sec of Def, 24 Feb
28 February 1958 ✓	Mr. Roy Johnson, ARPA, in memo to the Sec/AF concluded that: a. ATLAS/WS117L Project should be accelerated and given highest national priority in order to attain IOC at earliest date. b. THOR-boosted interim reconnaissance system with light weight recoverable capsule was a duplication of 'a'. Do not pursue. c. To attain early flights of Lockheed second stage, AF may find it desirable to use THOR-boosted test firings. THOR-boosted cheaper and available sooner than ATLAS, also can be used with second stage Lockheed vehicle for experimental recovery flights with animals.	Memo for SAF, subj: Reconnaissance Satellites and Manned Spa Exploration, Office [illegible] Sec of Def, dtd 28 [illegible] 58, /s/Roy L. John Dir, ARPA

[redacted]

[redacted]

[redacted]

OSEH-13

[redacted] [redacted]

[redacted]	[redacted]	[redacted]
March 1958	Activity in interim visual reconnaissance program (IIA) terminated in accordance with Mr. Johnson's message of 28 February.	
4 March 1958	OSD approved acceleration of WS 117L to include launching satellite test vehicles based on THOR booster.	Minutes of 16th meeting of AF Ballistic Missile Committee, 14 Mar 58, AFCGM Conf #58124
12 March 1958	Lockheed notified that Hq USAF had disapproved the WS 117L recoverable reconnaissance payload program. (WS 117L Program IIA). LMSD notified to reorient THOR-booster WS 117L Program for acceleration using THOR-boosted flights for early WS 117L tests -- orbital flights for exercise of ground-space communication network, concept for recoverable capsule, for biomedical research flights.	TWX, WDTR 3-12-E fr. Comdr, AFBMD to LMSD, 12 Mar 58
19 May 1958	Cognizance over WS 117L assigned to ARPA.	Incl. 2 of Sec of Def Directive No. 5100.5 dtd 19 May 58
30 June 1958	ARPA Order 9-58 issued. Announced Sec Def had approved the assumption of responsibility for the Advanced Reconnaissance System (WS 117L) by ARPA. BMD to continue the project: to submit a detailed development and financial plan to ARPA $22.7M made available initially.	ARPA Order 9-58, 30 June 1958
1 July 1958	AFBMD Advanced Reconnaissance System (WS 117L) "New Horizons" Development Plan published. Funding program FY 58, $60M; FY 59, $219M, later revised to FY 58, $67M; FY 59, $150M. Plan contained both THOR-boosted version for component test and demonstration of orbital capability, and ATLAS-boosted reconnaissance program.	New Horizons Development Plan, 1 July 58
July 1958	Initial arrangements made by BMD to organize a unit capable of aerial recovery WS 117L capsules. 9/ C119J aircraft to be used. "Aerial Snatch" called Project Hot Band. Aircraft to come from TAC, 6593d Test Squadron (Special) activated by ARDC GO 33, effective 1 Aug 58. Unit to be based at Hickam AFB.	ARDC General Order 33
30 July 1958	Director ARPA, informed Sec Air Force $213M was programmed for WS 117L in FY 59. $30.7M available to BMD. Balance subject to Congressional action, BOB apportionment. Total included biomedical project. BMD informally requested to	Memo for Sec of Def subj: ARPA Fiscal Year 1958-1959 budget, dtd 11 July 1958

[redacted]

~~CONFIDENTIAL~~

DATE	EVENT	REFERENCE
	submit a new development and funding plan within these limitations, and to indicate how they would use more money if additional funds are available.	
22 July 1958 ✓	ARDC GO 38 designated and organized 6593d Test Squadron (Special). (In place at AFMTC for training, Aug-Dec 58, then to Hickam AFB, Hawaii.) Squadron assigned to Det #1, ARDC, AFBMD, for administrative and operational control.	ARDC GO 38
6 August 1958 ✓	Procurement of long lead time items authorized. THOR-WS 117L vehicle procurement increased an additional 9 over the 10 authorized to a total of 19. Intent to utilize these for bio-medical and other measurements of space phenomena. Prepare new development plan based on $213M FY 59 ARPA Program.	TWX fr Hq USAF to COMARDC AFOOP 54161 dtd 6 Aug 58
15 Sep 1958 ✓	AFBMD published *Advanced Reconnaissance System (WS 117L)* Development Plan. Contained both THOR and ATLAS-boosted phases of program. Funding program, FY 59, $231M; FY 60, $397M. Plan is profusely illustrated and explanatory in detail.	ARS(WS 117L) Development Plan, 15 Sep 58
25 Sep 1958 ✓	Director, ARPA informed BMD he was not able to approve current SENTRY Development Plan. Reasons: FY 59 funding plan exceeds ceiling of $213M; achievements of major program objectives have been substantially delayed in spite of proposed funding level increases; FY 60 budget is in excess of a considered realistic funding level. ARPA sending an Ad Hoc Project Group out to investigate, evaluate and recommend an ARPA *SENTRY* and follow-on program. (Cesaro, Lind, Irvine, Trump)	Memo for Comdr, BMD, ARDC, fr. ARPA, subj: ARPA Ad Hoc Gp on Project SENTRY and Follow on Program, dtd 25 Sep 58
25 Nov 1958 ✓	ARDC directed to eliminate two of the small primate shots from the *DISCOVERER* test series. Two mouse, one small primate shot are authorized. The two cancelled small primate boosters are to be reassigned.	Ltr to Comdr ARDC from ARPA, dtd 25 Nov 58 /s/ R.W. Johnson
4 December 1958 ✓	Mr. Roy W. Johnson, Director, ARPA, informed the Under Secretary of the Air Force that a program to develop a number of systems and techniques which will be employed in the operation of space vehicles had been inaugurated. This program, to be known as DISCOVERER, was to include THOR launchings associated with WS 117L plus other similar	Memo for SAF, subj: WS 117L Program, ARPA, dtd 4 Dec 58; Memo Rpt for Director ARPA fr OSD, dtd 1 Dec 58

	projects not operationally oriented. Separate resources and DISCOVERER-TEDR costs from WS 117L Program (SENTRY). Prepare separate development plans and progress reports for each. Tentative realignment of funds is: DISCOVERER, FY 59, [redacted] FY 60, [redacted] SENTRY, FY 59, [illegible], FY 60, [illegible]. Secretary of Defense and ARPA agreed to assign RDC for SENTRY to ARDC "for the next several years and until final objectives are obtained". Tentative "centers" for the program will be operated by ARDC.	⊗
5 December 1958 ✓	Mr. Roy W. Johnson, Director, ARPA, informed Under Secretary of the Air Force that reorientations of the DISCOVERER and SENTRY Programs were proposed, and a study and review would be made. For this review, AF was to assure that [redacted] was available in FY 59 and [redacted] in FY 60. AFBMD should not exceed these resources. In areas where cancellations were contemplated, no procurements beyond those absolutely necessary should be made.	Memo for Under SAF, subj; DISCOVERER-TEDR Project and SENTRY Program, ARPA, dated 5 Dec 58
* 7 December 1958	Mr. R. W. Johnson revised his 25 Nov 58 letter concerning biomedical payloads for DISCOVERER Program now to provide for one successful primate recovery, up to a total of 3 attempts should be planned, with 2 additional attempts, if necessary and desired to be in lieu of payloads in the series of 13 flight vehicles.	TWX fr OSD to Comdr ARDC DEF 951903 dated 7 Dec 58
13 December 1958 ✓	add AFBMD briefed AF and ARPA on WS 117L reorientation in response to 4-5 December ARPA directives. BMD also submitted alternate program reorientation suggestions.	
16 December 1958	ARPA Order 48-59 to Sec AF. Requested Sec AF to continue study, development, and launch operations originally associated with the TEDR phase of SENTRY Program under ARPA Order 9-58, as an independent project identified as DISCOVERER-TEDR project. Earlier costs will be transferred to the new project. Prepare a new financial plan by 15 Jan 1959.	ARPA Order 48-59
17 December 1958 ✓	Mr. R. W. Johnson, Director ARPA, reorients SENTRY Program. The reorientation included FY 59 funds of [redacted] included the 13 flight DISCOVERER program of Calendar Year 1959.	Memo for the Under SAF subj: Reorientation of SENTRY Program, ARPA, dtd 17 Dec 58

[illegible]

[redacted]

[illegible] 1958	[illegible]	
21 January 1959	First launch attempt of a THOR-DISCOVERER from Vandenberg AFB. Launch terminated at T-60 as a result of inadvertent firing of the ullage rockets.	
30 January 1959	Four new development plans published DISCOVERER, MIDAS, SENTRY and CAROUSEL. Plans in accordance with ARPA reoriented program.	
3-4 February 59	Hq USAF - ARDC and ARPA briefed on DISCOVERER, SENTRY and CAROUSEL Development Plans. The proposed CAROUSEL Program was removed from further consideration.	
16 February 59	Amendment No. 1 to ARPA Order dtd 16 Feb, No. 48-59 approved, "in general" the DISCOVERER Program as presented to the ARPA on 4 Feb 59. The approval authorized a 13 vehicle program and made available [redacted] for FY 59.	Amend No. 1 to ARPA Order 48-59
17 February 59	ARPA Order 60-59 makes available $1.1M to defray the cost of modification and operation of the downrange telemetry ship, Pvt Joe E. Mann, thru 30 Jun 59. The order announces that effective 1 Jul 59 operational and funding responsibility for the ship will be transferred to the Pacific Missile Range.	ARPA Order 60-59
28 February 59	DISCOVERER I (163-1022) successfully launched.	
5th March 1959	Amendment No. 2 to ARPA Order No. 48-59 approves the development and funding plan, dtd 30 Jan 59 for the DISCOVERER Program. The approval provides for a 13-vehicle program.	a.w.d Amend No. 2 to ARPA Order 48-59.
13 April 1959	DISCOVERER II (170-1018) successfully launched from VAFB at 1318Z hours. DISCOVERER II was successfully placed in orbit.	

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[redacted]

[redacted]

add

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28 Jul 59	Amendment No. 6 to ARPA Order 48-60 dated 28 July 1959 increased the Discoverer Program to a 29 vehicle series from a 25 vehicle series.
17 Nov 59	The Discoverer program was transferred from ARPA to USAF cognizance. MEMO for SECAIR FROM GATES. SUBJ. TRANSFER OF DISCOVERER PROGRAM TO DEPT of AF. 17NOV59
1 Dec 59	Two new Development plans were prepared due to transfer of Discoverer program from ARPA to USAF. The first plan dated 1 Dec 59 described a 29 vehicle program. (AFDAT 1308/59)
15 Dec 59	Second Development plan was prepared providing for a 22 vehicle program (AFDAT 1308/59) based on possible fund limit.
14-15 Dec 59	Briefings to Hq USAF on the two Development Plans.
21 Dec 59	Hq USAF approval of 29 vehicle plan at a reduced funding rate. (AFDAT 58212 dated 21 Dec 59).
15 Jan 60	New Development plan which reflected changes desired by Hq USAF was prepared for a 29 vehicle program.
Week of 8 Feb 60	15 Jan 60 Development Plan briefings presented to AFBMC and DDR and E.
17 Feb 60	15 Jan 60 Development plan submitted for OSD. (AFDAT 66938)
27 Feb 60	Hq USAF approval of 15 Jan 60 plan - included funding for 12 Additional Thor/Discoverer and four Agena vehicles (AFABF and AFDAT Msg 73993), totaling 33 final Discoverer vehicles.
14 Mar 60	Action by AFBMD to procure 4 additional Agena vehicles in accordance with 27 Feb 60 message.
28 Apr 60	DDR and E Approved 15 Jan 60 plan in principal. (AFDAT-AT letter to ARDC Subj: Exploitation of Initial Samos Data dated 1 Jun 60.)
20 Jul 60	Discoverer program asked by Hq USAF to submit revised 15 Jan 60 Development plan to reflect an increase from 29 vehicles to 37 vehicles, including two Discoverer XX launches for Midas program. (AFDAT-AT 70837 dated 20 Jul 60) Verbal instructions from AFDAT-AT were received to include in revision an increase to 41 vehicles rather than 37.
4 Aug 60	Action by AFBMD to procure four additional Agena vehicles to total 37 Discoverer vehicles. (AFDAT-AT 70837) Hq ARDC informed of this action by WDZYD message cite WDZYD 3-8-34 dated 4 Aug 60.

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these type meetings had not been convened. Decision was made to provide one heavy skinned booster anticipating that the wind tunnel program might prove it a requirement for the next launch. At the same time the decision was also made to beef-up the MAC Adapter for the next launch.

26 Sep 60	Atlas Booster 77D scheduled to support the MA-3 launch was accepted at Convair Astronautics, San Diego, as the culmination of the Factory Roll-Out Inspection effort for that booster.
11 Oct 60	Message received by AFBMD from Hq USAF, thru ARDC, informing of the forthcoming investigation of the Mercury program by the House Committee on Science and Astronautics, (Brooks' Committee).
Oct & Nov 60	Investigations continued throughout this period to determine the cause of the MA-1 malfunction and initiate the necessary fixes prior to the launch of MA-2.
16 Nov 60	NASA Space Task Group concurred with recommendations of AFBMD/Aerospace/STL/CV-A to proceed with the launch of MA-2, with re-inforced adapter, production capsule with escape tower installed and the existing thin skin booster (67D). Recommendations were made after analysis was completed on the 1/3 scale wind tunnel test on Mercury vehicle front end assembly. Tests showed satisfactory margin of safety for gross bending moment loads on both the MA-1 and MA-2 configurations. Wind tunnel test also identified localized stresses, however, techniques do not exist that will allow conclusive analysis of their effects. Because of the pressurized condition of the Atlas these stresses were not believed to present a problem.

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DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

Sally, Amy & Moe, three black
mice rode "piggy-back" on
re-entry [illegible] in RVX-2A nose
cone atop Atlas [illegible]D

rocketed 650 miles into
space & survived 18,000 mph
plunge into a planned impact
area 5,000 mi downrange

~~SECRET~~

V

DISCOVERER PROGRAM CHRONOLOGY ~~CONFIDENTIAL~~

July 56	WS117L Development plan approved.	
Aug 56	Development Directive No. 85 [redacted] allocated to initiate program.	
10 Dec 56	Funds increased to [redacted]	
6 Mar 57	Slow down ordered [redacted] FY 57 funds available.	
16 Sep 57	Air Council approval.	use but add
10 Oct 57	Sec of Air Force approval.	use but add
15 Oct 57	[redacted] funds authorized.	use but add
19 Oct 57	Ordered to limit obligations to [redacted] through Jan 58.	use
23 Jun 58	Chief of Staff approved WS117L program acceleration.	use
28 Feb 58	ARPA recommended Thor boosted program for engineering testing.	use
4 Mar 58	Recoverable (biomedical) capsule capability added to Thor program.	use
~~May 58~~	~~WS117L assigned to ARPA.~~	
~~Jun 58~~	~~ARPA order 9-58 issued, [redacted]unds available~~	
Jul 58	Funds increased to [redacted]o purchase 4 Agena vehicles.	find date
Aug 58	ARPA order 9-58 funds increased to [redacted]	find date
5 Aug 58	9 additional Thor shots authorized for total of 19.	use
25 Aug 58	ARPA order 9-58 fund increased to [redacted]	use
25 Sep 58	ARPA order 9-58 fund increased to [redacted]	use
29 Sep 58	Responsibility for ARPA order No. 9-58 transferred from AFBMD to ARDC.	use
10 Oct 58	AFMTC Atlas launches cancelled.	use
1 Nov 58	DCS/D authorized [redacted] 58 p 244 funds for WS117L.	use
25 Nov 58	ARPA directed ARDC to fly 2 mouse and one small primate shots in the Thor boosted program.	
4 Dec 58	Discoverer program separated from WS117L funding FY 59 [redacted] FY 60 [redacted]	

SSZDT-62

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DOD DIR 5200.10

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SSZDT-621

~~SECRET~~

~~7 Dec 58~~	ARPA directed up to 3 attempts be made to recover a small primate.	dupl
add 11 Dec 58	Responsibility for ARPA order 9-58 transferred from ARDC to Secretary of the Air Force.	
~~16 Dec 58~~	ARPA order 48-59 confirmed separation of Discoverer from WS117L.	
21 Jan 59	First Discoverer launch attempt. Damage experienced due to premature firing of Ullage rockets.	
28 Feb 59	Discoverer I successfully launched on polar orbit. ~~Non-recoverable~~ shot.	
add 2 Mar 59	Amendment No. 1 to ARPA Order 38-59 approved, subject to review, Phase I only of the MIDAS program and increased available funds under the order from [redacted] Instructions were given to AFBMD to submit plan for the procurement of ATLAS boosters and space vehicles for Phases II and III, long lead time items.	
24 Mar 59	Amendment No. 2 to ARPA Order 48-59 approved the development and funding plan dated 30 Jan 1959 for the DISCOVERER Program. The approval provided for a 13-vehicle program.	
~~13 Apr 59~~	Discoverer II launched; orbital timer problem. Capsule reentered over Spitzbergen.	dupl
1 May 59	AFBMD submitted DISCOVERER Development Plan dated 30 April to Mr. Malcolm A. MacIntyre, Under Secretary of the Air Force. Major change over earlier 1 January plan was addition of ten flights, making a total of 25 flights.	

SSZDT-621

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SSZDT-621

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18 May 59 AFBMD informed by AFDAT that WS 117L had been removed from Master Urgency List, and DISCOVERER and SENTRY put on it with DX ratings. Action was underway to obtain (from NSC or NASC) a DX rating for MIDAS. AF priority for all three programs remained as 1-A with 1-1 precedence.

20 May 59 Amendment No. 4, ARPA Order 48-59 approved DISCOVERER Development and Funding Plan dated 30 April 1959, on the 25-vehicle program. Funds were increased from [redacted]

3 Jun 59 Discoverer III launched. No orbit due to insufficient velocity.

24 Jun 59 AFBMD was informed that ARPA had laid down ground rules for the initial FY 1960 budget determination. These were: SENTRY $135.M, with SENTRY recovery program ($25M) to be deferred pending review; DISCOVERER, [redacted] for extension and completion of the series; MIDAS $18.M ARPA funds, with assumption Air Force will fund $28.9M when Phase II was approved. No increments to the above funds were available. AFBMD was to submit revised development plans based on the above instructions. Until FY 1960 appropriations word was received, funds would be on a monthly basis.

25 Jun 59 Discoverer IV. No orbit due to insufficient velocity.

15 Jul 59 Revised DISCOVERER, SENTRY, MIDAS development plans submitted to ARPA, as required in 24 June instructions.

20 Jul 59 ARPA, USAF, ARDC, briefed on programs outlined in the revised development plans.

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13 Aug 59	Discoverer V. Capsule ejected in wrong direction.
19 Aug 59	Discoverer VI. Capsule not recovered.
7 Nov 59	Discoverer VII. Auxilliary power invertor failed. No stabilization or capsule separation possible.
17 Nov 59	The Discoverer program was transferred from ARPA to USAF cognizance. Memo for Sec. Air from Gates. Subj: Transfer of Discoverer program to Dept. of Air Force, 17 Nov 59.
20 Nov 59	Discoverer VIII. Engine not cut off at proper time. Highly elliptical orbit caused premature exhaustion of stabilization gas.
1 Dec 59	Two new Development plans were prepared due to transfer of Discoverer program from ARPA to USAF. The first plan dated 1 Dec 59 described a 29 vehicle program. (AFDAT 1328/59)
15 Dec 59	Second Development plan was prepared providing for a 22 vehicle program (AFDAT 1328/59) based on possible fund limit.
14-15 Dec 59	Briefings to Hq USAF on the two Development Plans.
21 Dec 59	Hq USAF approval of 29 vehicle plan at a reduced funding rate. (AFDAT 98212 dated 21 Dec 59).
15 Jan 60	New development plan which reflected changes desired by Hq USAF was prepared for a 29 vehicle program. [redacted]
4 Feb 60	Discoverer IX. No orbit.
Week of 8 Feb 60	15 Jan 60 Development Plan briefings presented to AFBMC and DDR and E.

SSZDT-621

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17 Feb 60	15 Jan 60 Development plan submitted for OSD. (AFDAT 66938)
19 Feb 60	Discoverer X. Thor guidance malfunction caused pitch oscillations. Vehicle destroyed by range safety officer.
27 Feb 60	Hq USAF approval of 15 Jan 60 plan - uncluded funding for 12 additional Thor/Discoverer and four Agena vehicles (AFABF and AFDDP msg 73993), totaling 33 final Discoverer vehicles.
14 Mar	Action by AFBMD to procure 4 additional Agena vehicles in accordance with 27 Feb 60 message.
15 Apr 60	Discoverer XI. Capsule not recovered due to improper retro-rocket trajectory.
20 Apr 60	DDR and E Approved 15 Jan 60 plan in principal. (AFDST-AT letter to ARDC Subj: Exploitation of Initial Samos Data dated 1 Jun 60.)
29 Jun 60	Discoverer XII. Agena atitude control malfunction caused the Agena to be pointed in wrong direction during second stage firing. Orbit not achieved.
About 1 Jul 60	Authorization granted for a tracking station at New Boston, New Hampshire. This station will be an addition to the Discoverer tracking network, and will give additional coverage for the ground station tracking of orbiting Discoverer vehicles. The new Boston station is programmed as a Discoverer/MIDAS/SAMOS ground tracking station.
20 Jul 60	Discoverer program asked by Hq USAF to submit revised 15 Jan 60 Development plan to reflect an increased from 29 vehicles to 37 vehicles, including two Discoverer RM launches for Midas program. (AFDSD-AT 70837 dated 20 Jul 60) Verbal instructions from AFDFD-MS were received to include in revision an increase to 41 vehicles rather than 37.

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27 Dec 60	Change #2 to 15 Jan 60 Development Plan submitted to Hq ARDC (27 Dec 60 letter of transmittal). This change calls for a 41 vehicle program, and updates the schedule and funding.
Jan 61	Two vehicles transferred to another program.
Jan 61	Six additional vehicles authorized. Development Plan to be revised upon authorization of USAF.
Jan 61	Point Mugu Tracking Station de-activated.
30 Mar 61	First BTL Guidance Launch.
2 May 61	Change #3 to 15 Jan 60 Development Plan submitted. Calls for 45 vehicle program and additional funding.
16 Jun 61	First SCUBA team recovery of capsule — Discoverer 25.
7 Sep 61	Change #3 to 15 Jan 60 Development Plan approved by Hq USAF, per memo for USAF Attn: AFSDC, Subject: Discoverer Development Plan - signed by Joseph Charyk, Under Secretary Air Force.
14 Sep 61	First air recovery by JC-130B.
12 Dec 61	OSCAR II - Amateur radio transmitter placed in orbit. Final VELA HOTEL piggyback test.
5 Feb 62	Change #4 to 15 Jan 60 Development Plan submitted.
19 Mar 62	Change #4 to 15 Jan 60 Development Plan approved by Hq USAF, per AFSDC-11 71135, 19 Mar 62 for FY 62 118.9M and FY 63 33.3M
27 Jun 62	First Agena D launch. Attained orbit successfully and was aerial recovered on Pass 63, 1 July 62.
10 Jul 62	Change #5 to the 622A, 15 Jan 60 Development Plan was submitted to Hq USAF. Plan calls for a 65 vehicle program through CY 63.

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Copy # 2 of 4 cys.

HEADQUARTERS
6565TH TEST WING (DEVELOPMENT) (AFSC)
UNITED STATES AIR FORCE
Vandenberg Air Force Base, California

REPLY TO
ATTN OF:

SUBJECT:

28 August 1961

OM
File
D.A.C.
Discoverer #27
Incident.
5 Sept.

TO: General Ritland
Commander, SSD
Air Force Unit Post Office
Los Angeles 45, Calif

Dear General:

The problems discussed in your letter of 8 August relative to performance of Douglas Aircraft personnel at Vandenberg continue to receive close scrutiny by this organization. At this time it is most difficult to specifically tie in problems encountered with personnel deficiency.

Subsequent to the previous letter on this subject, local Douglas field management has been very active in efforts to improve total field management as well as technical supervision in connection with the operation. Engineering leadership has been moved into the complex, and combinations, deletions and regrouping has occurred, which should improve overall efficiency. The local manager is very aggressive in the management area and makes frequent reports of his efforts in this direction to the undersigned.

These reorganization efforts have also been aimed to upgrade the company classification of key personnel thus affording some offset to the pay and departure problems discussed in our previous correspondence. There has been a decrease in total Douglas strength at Vandenberg, but this appears in line with the diminution of their efforts in other areas. Two personnel, possibly considered as key personnel have departed in the last six months, and they remained with the Douglas Company at other locations and in better jobs. Such action would not appear inordinate. The remainder of the losses occurred because of several causes, better pay, reorganization, normal attrition, unsatisfactory performance, etc. Altogether the Douglas, Vandenberg strength was reduced from 520 to 440 personnel since last December. Generally speaking their efforts for the Discoverer program show no significant reduction in quality or quantity during this period.

The specific individual associated with the Discoverer XXVII incident has been with Douglas since March 1960. He was working in the CEA area for about six months. Prior to working with Douglas he was a USAF radar technician from 1956. The engineer in supervisory and approval position had been with Douglas at Vandenberg since March of 1960. Local management and engineers considered him the best qualified at Vandenberg in this area. The Douglas technicians generally have an average of 22.5 months at Vandenberg and an average of 38 months with the Company.

Several prepatory type problems and their diagnosis have not shown a specific personnel cause due to inexperience, yet we must admit that the possibility of personnel error is always present. It is my personal belief that the losses, reported earlier, have had their effect. It does not seem reasonable to completely discount the loss of a relatively large number of key individuals in the past two years.

In general, management is aggressive in general improvement efforts for supervision and technical adequacy. Personnel numbers and quality appear adequate, however, many key individuals of the original program have departed.

The current environment in the Douglas Field Group is one of extreme caution in the validation process. Generally, this is of course always desirable, but at this point tends to be somewhat delaying in arriving at technical conclusions during validation runs. This also, because of Santa Monica participation is making technical certification sometimes late, or raises problems very late, causing schedule difficulties. Whether this environment is created by personnel deficiency or pressure from the XXVII incident is difficult to evaluate.

No specific recommendation as to headquarters action is made, however, personal pressure of the Commander SS/D on management level is believed wise and conducive to the kind of attention we think the program merits.

Joseph J Cody Jr.

JOSEPH J. CODY, JR
Colonel, USAF
Commander

SSZD/Col Battle

8 AUG 1961

Mr. Elmer Wheaton
Vice President Douglas Aircraft Company
3000 Ocean Park Boulevard
Santa Monica, California

Dear Elmer

1. I have reviewed the results of the investigation of the failure of the booster on Discoverer 27. The conclusions reached from this investigation again bring into focus the problem of personnel training and discipline at the Douglas Vandenberg Field Station.

2. This situation was brought to your attention in the past, and I was assured by your letter, G-25-AN-3 dated 25 Jan 61, that action was being taken to correct the situation. Of particular concern to me is the fact that three instances of this nature have occurred within the past three months.

3. I am unaware of what specific actions have been or are being taken in the matter of personnel discipline as a result of the Discoverer 27 investigation nor in any of the other instances of human error. It appears, however, that very definite action at Vandenberg is indicated if these very costly mistakes are to be eliminated.

4. The Space Systems Division is indeed gratified by the excellent reliability record established to date by the Thor as a space booster. I am therefore most anxious to see its reliability continue to improve.

Sincerely

Original Signed
O. J. RITLAND

O. J. RITLAND
MAJOR GENERAL, USAF
COMMANDER

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THE FOLLOWING MEMO FOR DIR OF DEFENSE RESEARCH AND ENGINEERING DTD 15 JUN 61 SIGNED BY J V CHARYK IS QUOTED FOR YOUR INFORMATION.
"QUOTE" DURING THE PAST WEEKS WE HAVE GIVEN SUBSTANTIVE ATTENTION TO THE TECHNICAL AND ORGANIZATIONAL PROBLEMS ASSOCIATED WITH THE SPACE PROGRAM DEVELOPMUNTS UNDER THE COGNIZANCE OF THE LOSKHEED MISSILE AND SPACE DEVISION IN SUNNYVALE, CALIFORNIA. AS A RESULT OF THESE STUDIES AND MEETINGS, A MAJOR REORGANIZATION IS BEING IMPLEMENTED BY THE LOCKHEED AIRCRAFT CORPORATION WHICH INVOLVE THE ESTABLISHMENT OF THE LOCKHEED MISSILE AND SPACE COMPANY AND THE APPOUNTMENT OF MR. EUGENE ROOT AS PRESIDENT OF THE NEW COMPANY. IT IS THE AIR FORCE BELIEF THAT THE IMPLEMENTATION OF THE PROPOSED CHANGES WILL HAVE A SALUTARY EFFECT ON THE PROGRESS OF THE SPACE PROGRAMS BEING CARRIED ON BY LOCKHEED.

DURING THE NEXT FEW CRITICAL MONTHS, WE HAVE CONCLUDED THAT IT WOULD BE HIGHLY UNDESIRABLE TO DEVERT ANY OF THEIR ENERGY OR ATTENTION INTO NEW AREAS. ACCORDINGLY, I HAVE DIRECTED THE COMMANDER OF THE AIR FORCE SYSTEMS COMMAND THAT THEY SHOULD BE EXCLUDED FROM ANY BIDDERS LIST WHICH WOULD INVOLBE WORK REQUIRING THE TYPES OF TALENTS NECESSARY FOR THESE SPECIFIC SPACE SYSTEMS PROGRAMS. WE HAVE ALSO AGREED TO REVIEW THE AITUATION AFTER SEVERAL MONTHS AND IF A MARKED INPROVEMENT IN EVIDENT AT THAT TIME, WE WILL TAKE ACTION TO REVOVE THESE RESTRICTIONS.

THE PURPOSE OF THIS MEMORANDUM IS TO INFORM YOU OF THESE ACTIONS AND TO PROVIDE A BASIS FOR ANY ADDITIONAL ACTIONS WHICH YOU NAY FEEL NECESSARY AFTER CONSIDERATION OF THE MATTER. "UNQUOTE"
BT

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DOUG
AIRCRAFT COMPANY, Inc.
GENERAL OFFICE
SANTA MONICA, CALIFORNIA

28 August 1961
G25-AN-16

To: Major General O. J. Ritland, USAF
Air Force Space Systems Division
Air Force Systems Command
Air Force Unit Post Office
Los Angeles 45, California

Dear Ozzie:

In response to your letter of 8 August 1961, and in confirmation of our recent discussion in your office, I have established that the following action shall be taken:

1. That the negligent personnel in this failure, two engineers, two technicians and an inspector, be given written, personal corrective interviews by their supervisors.
2. That a complete and detailed review be made of all checkout procedures at both Vandenberg and AMR to insure that in all cases at least two checks are made of every element in the system prior to launch.
3. That the review described above be conducted on a regular periodic basis.
4. That the checkout procedures and checkout equipment be reviewed as they affect the test technicians capabilities, to eliminate further possibilities of human error.
5. That a review board consisting of senior engineers be established for the purpose of examining all changes made to the vehicle affecting interchangeability the day before launch.
6. That a system of reorientation and cross-training be instituted to further improve personnel efficiency, to keep techniques continuously up to date, and to insure consistent adherence to the special and standard practices and procedures used in the preparation, check-out and launching of the vehicle.

Through this course of action, I am confident that the fine reliability record of the Thor booster will continue to increase.

As I explained at our recent meeting, I feel that the personnel situation which existed at the time of your 12 January 1961 letter has been completely corrected. Since that time, there have been very few changes in key personnel.

Please be assured that the Thor booster in its role as the work-horse of the Air Force space programs will continue to receive my personal attention.

Sincerely yours,

E. P. Wheaton
Vice President, Engineering

EPW:dmc

Alvin R, Vaxmaster

ad

ad

July 6,

3.M

HEADQUARTERS
SPACE SYSTEMS DIVISION
AIR FORCE SYSTEMS COMMAND
UNITED STATES AIR FORCE
Air Force Unit Post Office, Los Angeles 45, California

REPLY TO ATTN OF: SSZN/Lt Gerber/OS 5-0351 Ext 76

SUBJECT: AFSC Annual Progress Report to Chief of Staff, USAF

TO: DCAH (Dr. Rockefeller)

1. Reference IOC dated 22 June 1961, subject as above. On 21 June 1961, the Secretary of Defense approved and funded the VELA HOTEL Program. The objective of the VELA HOTEL Project is to conduct a research and development program including experiments and prototype testing to gain information leading to the definition of an operational space-based program for high altitude nuclear detection.

[redacted]

2. The far earth portion of the VELA HOTEL Program will consist of five launches of Atlas D/Agena B launch vehicles from AMR. Each vehicle will place two spacecraft into a single highly elliptical orbit. Each spacecraft will be transferred into a minimum circular orbit of 50,000 nautical miles by means of self contained propulsion units. The instrumentation aboard the spacecraft will be furnished by the AEC and will consist of X-ray, gamma ray, and neutron detectors and Geiger Mueller tubes.

3. In addition to the far earth program, six DISCOVERER Piggy-back low altitude polar orbit flights are being accomplished which will obtain background radiation data below the Van Allen belts. These flights will carry Lawrence Radiation Laboratory experiments consisting of X-ray, gamma ray and neutron detectors, PENG (proton-electron-neutron-gamma ray) detectors and solid state spectrometers.

4. The Aerospace Corporation has established a VELA HOTEL Program Office to work in conjunction with the Space Systems Division VELA HOTEL Office.

William C. Kester
WILLIAM C. KESTER
Major, USAF
Director, VELA HOTEL
Deputy for Satellite Systems